



Chemical and Biological Defense

CBIAC
Information Analysis Center

Newsletter

Summer 2002

Volume 3 Number 3

A U.S. Department of Defense Information Analysis Center sponsored by the Defense Information Systems Agency, **Defense Technical Information Center**

Mobile Laboratories Support Defense and Homeland Security Operations

by Monica Heyl, CB Forensic Analytical Center, Edgewood Chemical Biological Center, Aberdeen Proving Ground, MD

The Army needs to monitor for the presence of chemical, biological, and nuclear materials both nationally and internationally. The FBI's Hazardous Materials Response Unit and the FBI's Explosives Unit need a forensic capability in response to crimes that may occur inside or outside of the United States of America. The FDA needs to enhance their presence at Ports of Entry and the capability to screen food and drugs for illicit materials. Olympic authorities in Atlanta and Salt Lake City required a method to protect against chem/bioterrorism. Sophisticated, mobile laboratories that are easily transported to various locations provide the solution!

Who supplies these mobile laboratories? Who designs them? What are the design criteria? What are the trade-offs? How well do they perform? Can we rely on them to fulfill their missions?



Background

For over a decade, the Edgewood Chemical Biological Center (ECBC) has had a mobile laboratory design and development team working with military, civilian, and international government agencies to provide monitoring and analysis equipment for use in a wide variety of circumstances. The mobile laboratory program was initiated in 1992 when the Army began destroying its chemical weapons in compliance with Congressional mandates. The first effort was a unit called the Real-Time Analytical Platform (RTAP). The RTAP is a laboratory housed in a Ford van engineered by the Army, Agilent Technologies of Palo Alto, California, and ENG Mobile Systems of Concord, California. RTAPs are now deployed all over the world where chemical warfare materiel is stored and awaiting destruction. Agilent, ENG, and several other partners have been closely involved in many subsequent mobile laboratory developments.

In preparation for the ratification of the Chemical Weapons Convention, the Department of Defense implemented a research and development program to support the Organization for the Prohibition of Chemical Weapons (OPCW). Under the auspices of this program, an easily transportable chemical laboratory that was capable of both high sensitivity and selectivity was needed. In other words, the laboratory had to be able to detect very small quantities of known agents, or precursors, and then be able to differentiate between two compounds where one might mask the other. After evaluating a number of available tools, we decided the only solution was to create a mobile platform for a very sensitive laboratory instrument called a GC/MS, the gas chromatograph/mass spectrometer.

The GC is the workhorse of the chemical analysis world for volatile and semi-volatile chemical materials. It separates complex compounds into their individual constituents. The mass spectrometer is the most sensitive and selective of the many detectors that the GC can use to display the constituents. In this case, the whole system of instruments, the gases it requires to operate, the power generation, and the operator station were modularized into a two-man portable series of shipping containers, called the Flyaway laboratory. The Flyaway is now also internationally deployed.

Subsequently, ECBC and its partners from private industry continue to refine existing designs and develop new ones to meet the needs of government and industry for field analysis of chemical and biological samples.

In 1995, we deployed four Flyaway laboratories for the United Nations' Special Commission to Iraq. Beyond military applications, we were asked by the FBI to provide a sophisticated laboratory system for the Hazardous Materials Response Unit. We supplied a chem/bio/high-explosive/radiation-capable laboratory that integrated various instruments so that our customer could accomplish their mission. We also supplied



The **Chemical and Biological Defense Information Analysis Center (CBIAC)** is a Department of Defense (DoD)-sponsored Information Analysis Center (IAC) operated by Battelle Memorial Institute and administered by the Defense Information Systems Agency (DISA), Defense Technical Information Center (DTIC) under the DoD IAC Program Office (Contract No. SPO700-00-D-3180). The CBIAC is supported by Horne Engineering Services, Inc., Innovative Emergency Management, Inc., MTS Technologies, Inc., QuickSilver Analytics, Inc., and SciTech, Inc. Contact the CBIAC Contracting Officer's Technical Representative (COTR) at:

CDR USA SBCCOM
Edgewood Chemical Biological Center
ATTN: AMSSB-RRT-OM (CBIAC COTR)
5183 Blackhawk Road
Aberdeen Proving Ground, MD 21010-5424

U.S. Government agencies and private industry under contract to the U.S. Government can contact the CBIAC for information products and services. CBIAC services also extend to all state and local governments and the first responder community, to include local emergency planners, firefighters, medics and law enforcement personnel.

The CBIAC is located in Building E3330, Room 150, Aberdeen Proving Ground - Edgewood Area, Maryland 21010. For further information or assistance, visit or contact the CBIAC.

CBIAC
Aberdeen Proving Ground - Edgewood Area
P.O. Box 196
Gunpowder, MD 21010-0196
Tel: (410) 676-9030
Fax: (410) 676-9703
E-Mail: cbiac@battelle.org
URL: <http://www.cbic.ac.apgea.army.mil/>



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The CBIAC Newsletter, a quarterly publication of the CBIAC, is a public release, unlimited distribution forum for chemical and biological defense information. It is distributed in hardcopy format and posted in Portable Document Format (PDF) on the CBIAC Homepage.

The CBIAC welcomes unsolicited articles on topics that fall within its mission scope. All articles submitted for publication consideration must be cleared for public release prior to submission. The CBIAC reserves the right to reject or edit submissions. For each issue, articles must be received by the following dates: Winter (First Quarter) - November 1st; Spring (Second Quarter) - February 1st; Summer (Third Quarter) - May 1st; Fall (Fourth Quarter) - August 1st.

All paid advertisements and articles are subject to the review and approval of the CBIAC COTR prior to publication. The appearance of an advertisement or article in the *CBIAC Newsletter* does not constitute endorsement by the DoD or the CBIAC.

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JMCD THE JOURNAL OF
MEDICAL CHEMICAL DEFENSE

- Journal Mission
- Editorial Board
- Current Issue
- Archived Issues
- Author Instructions
- Submit Manuscript Online

CBIAC TAT 122:

Demand for information on the chemistry, toxicology, and treatment for exposure to chemical threat agents has been increasing exponentially. For this reason, it would be useful to have reliable and credible

Announcing the Journal of Medical Chemical Defense

information concentrated for ready access to the scientific community. The US Army's Medical Research Institute of Chemical Defense (USAMRICD), the US Army's lead

laboratory for research on medical countermeasures to chemical warfare agents, will host and publish a peer reviewed scientific journal to fill this gap. Our vision is to provide a single international forum for publication of current research and development information on medical chemical defense, as well as training, doctrine and professional discussions of problems related to chemical casualties. This journal will be published on-line and made available to the scientific community free of charge.

Dr. Margaret G. Filbert and Dr. David E. Lenz, two senior scientists from USAMRICD will be the Editors. The editorial board will be composed of well-known and respected international scientists. Associate editors will represent different aspects of medical chemical defense and different geographic areas. We are planning to include on the Journal's website an archive of related papers from authors in the field that will be useful for research and information. Although the articles will be published on the web continuously, "Quarterly issues" are envisioned with the first issue planned for 1 October 2002. Author guidelines and other information are evolving and are available on the website. We invite the members of the CBMTS to contribute to the Journal of Medical Chemical Defense and help us to build the website as a useful resource for the community.

Dr. Barbara B.S. Price at Battelle will manage and coordinate soliciting articles from around the world, the peer review process and the copy editing. CBIAC will host and manage the website under the TAT.

Address:

> go

CONTRACT AWARDS

by Mary Frances Tracy

Research and Development of a Generic Micro-monitoring Instrument for the Characterization of Chemical and Physical Constituents of It's Environment

University of South Florida • Tampa, FL

\$7,995,804

May 15, 2002

increment (Part of a \$21,552,423 cost reimbursement contract)

By U.S. Army Space and missile Defense Command, Huntsville, AL

First Article Testing to Establish the Baseline of the Improved Toxicological Agent Protective Suit

Saint Saint-Gobain Performance Plastics Corporation • Merrimack, NH

\$804,035

June 11, 2002

By U.S. Army Tank and Automotive Command, Rock Island, IL

Chemical Biological Defense Restoration of the Operations Advanced Concept Technology Demonstration Program Management, Scientific, Engineering, and Technical Support

Defense Group Inc. • Alexandria, VA

\$3,000,000 increment

July 8, 2002

(Part of a \$7,420,984 cost-plus-award-fee contract)

By Defense Threat Reduction Agency, Fort Belvoir, VA

Design and Testing of the Collective Protection Air Purification Systems

Guild Associates Inc. • Dublin, OH

\$301,000 increment

July 11, 2002

(Part of a \$6,020,578 cost-plus-fixed-fee contract)

By U.S. Army Robert Morris Acquisition Center, Aberdeen Proving Ground, MD

Public Outreach Services for the Program Manager for Chemical Demilitarization

URS Coleman • Gaithersburg, MD

\$100,000

July 18, 2002

(cumulative total of \$22,267,870)

By U.S. Army Robert Morris Acquisition Center, Aberdeen Proving Ground, MD

Website Sources for Contract Information:

Vendors Federal Business Opportunities

<http://www.eps.gov/spg/>

GPO Access On the Web

<http://gpo.sailor.lib.md.us/>

DoD Procurement Gateway

<http://131.82.253.20/home/>

Search the CBD via GPO Access

<http://cbdnet.access.gpo.gov/search1.html>

CBIAC Deputy Director is Guest Editor for Journal Special Issue



Dr. Jim King, the Chemical and Biological Defense Information Analysis Center (CBIAC) Deputy Director was, along with COL Jim Romano, Ph.D., the Commander of the U.S. Army Medical Research Institute of Chemical Defense (USAMRICD) at

Aberdeen Proving Ground, MD, the guest editor for a Special Issue of the journal *Military Psychology*. The Special Issue is entitled, "Chemical Warfare and Chemical Terrorism: Psychological and Performance Outcomes" and was published in May 2002 as Volume 14, Number 2 of the journal. The Special Issue was the result of extensive collaboration between USAMRICD and the CBIAC. The unifying theme of the Special Issue is the psychological consequences and performance changes from exposure to chemical warfare agents or from use of the medical countermeasures to chemical warfare agents. The Special Issue contained the following articles: Preface to the Special Issue by COL Jim Romano and Dr. Jim King; Chemical Warfare and Chemical Terrorism: Psychological and Performance Outcomes by Romano and King; Performance Impacts of Nerve Agents and their Pharmacological Countermeasures by Dr. John McDonough; Nerve Agent Bioscavengers: Protection with Reduced Behavioral Effects by Drs. Doulas Cerasoli and David Lenz; Vesicant Agents and Antivesicant Medical Countermeasures: Clinical Toxicology and Psychological Implications by Dr. William Smith; and Neurotoxicological and Behavioral Effects of Cyanide and its Potential Therapies by Drs. Steven Baskin and Gary Rockwood. This Special Issue is a significant contribution to the medical chemical defense scientific literature and demonstrates the CBIAC's continuing commitment to active scientific participation in the chemical and biological defense community.

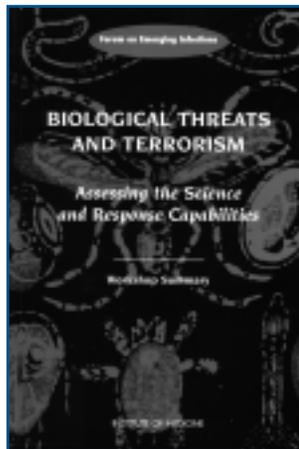


New CBIAC Information Resources • By Richard M. Gilman

Books

Knobler, Stacey L. et al. **Biological Threats and Terrorism: Assessing the Science and Response Capabilities.** Washington, D.C.: National Academy Press, 2002.

This publication summarizes the results of a 3-day workshop conducted by the Forum on Emerging Infections and the Institute of Medicine (IOM) on Nov. 27-29, 2001. The workshop explored: "...the current scientific understanding of threatening pathogens and what measures have been put in place to better monitor, prevent, and respond to their emergence. To determine where progress has been made and where gaps remain. Forum presentations and discussions reviewed existing policies, infrastructure, and research and scientific tools." (*Preface*)



The approximately 50 workshop sessions conducted covered the topic areas of assessing the current understanding of the threats; vaccine research, development, production and procurement; the counter-bioterrorism research agenda; the capacity of the U.S. public health system; and scientific and policy tools that can be utilized to counter bioterrorism.

Includes numerous tables, illustrations and twelve appendices.

Full text can be reviewed online at the website of the National Academy Press reading room located at <http://www.nap.edu>.

CB-160668 • ISBN 0-309-08253-6
National Academy Press
Box 285, 2101 Constitution Ave., N.W.
Washington, D.C. 20055
Phone: 1-800-624-6242 or 202-334-3313
<http://www.nap.edu>

Journals

Journal of Applied Toxicology. Vol. 21, Supplement 1 (Dec. 2001)

This is a special issue on Medical Countermeasures for Nerve Agents. The medical countermeasures discussed include: the role of peripheral site ligands in accelerating the inhibition of acetylcholinesterase by neutral organophosphates, the cardiotoxicity of the oxidative stress metabolites of catecholamines (aminochromes), the role of mass spectrometry in teleradiation for chemical and biological defense, the use of combination anticonvulsant treatment of soman-induced seizures, prophylaxis against organophosphate poisoning by sustained release of

scopolamine and physostigmine, limbic activity, oxidative stress and neuroprotective proteins associated with soman-induced seizures, and specificity and spontaneous reactivation of carboxylesterase, an endogenous scavenger for organophosphorus compounds.

CB-188092
John Wiley & Sons
605 Third Avenue • New York,
N.Y. 10158-0012
Phone: (212) 850-6645
Fax: (212) 850-6021



Documents from the Web

Department of Defense Chemical and Biological Defense Program Annual Report to Congress. Vols. I & II.

Washington, D.C.: Office of the Secretary of Defense, Deputy Assistant to the Secretary of Defense for Chemical and Biological Defense, 2002.

<http://www.acq.osd.mil/cp/nbc02/vol1-2002cbdannualreport.pdf> and

<http://www.acq.osd.mil/cp/nbc02/vol2-2002cbdperformance-plan.pdf>

"This annual report on the CBDP (Chemical and Biological Defense Program) is submitted to Congress, and it is intended to assess: (1) the overall readiness of the Armed Forces to fight in a chemical-biological warfare environment and steps taken and planned to be taken to improve such readiness; and (2) requirements for the chemical and biological warfare defense program, including requirements for training, detection, and equipment, for medical prophylaxis, and for treatment of casualties resulting from use of chemical and biological weapons. This report is provided in two volumes: Volume 1 provides an assessment of the plans and programs, and Volume II provides a performance plan for the CBDP in accordance with the Government Performance and Results Act." (*Executive Summary*)

CB-188072 (Vol. I) • CB-188073 (Vol. II)
Office of Counterproliferation and Chemical and Biological Defense, U.S. Department of Defense, Washington, D.C.

Jackson, Brian A. et al. **Protecting Emergency Responders--Lessons Learned from Terrorist Attacks.** Arlington, VA: Rand Science and Technology Policy Institute, 2002.
<http://www.rand.org/publications/CF/CF176/CF176.pdf>

"Preparation is key to protecting the health and safety of emergency responders, and valuable lessons can be learned from previous responses. To this end, the National Institute for Occupational Safety and Health (NIOSH) sponsored and asked

CALENDAR OF EVENTS

The CBIAC highlights conferences, symposia, meetings, exhibitions and workshops of interest to the CBD community both on our website and in every issue of our newsletter. If you would like to have a CBD-related event posted on the CBIAC Calendar of Events, submit the pertinent information via email to cbiac@battelle.org. Due to space limitations, the CBIAC will accept submissions on a first-come, first-served basis and reserves the right to reject submissions. For a more extensive list of events, [visit our website at http://www.cbiac.apgea.army.mil/](http://www.cbiac.apgea.army.mil/).

October 20-23, 2002

The 3rd G.C.C. Conference of Military Medicine & Protection Against Weapons of Mass Destruction

Doha-Qatar

Phone: +974.461.3180/156 Fax: +974.432.4705

nbcysymposium@qatar-nbc.org

<http://www.qatar-nbc.org>

October 22-24, 2002

BioDefense Mobilization Conference & Exhibition

Loews Hotel

Philadelphia, PA

POC: BioDefense Mobilization Conferences

Phone: 206.334.7333

eric@bio-defense.org

<http://www.bio-defense.org>

October 21-23, 2002

AUSA Annual Meeting: Realizing the Army Vision

Marriott Wardman Park Hotel and Omni Shoreham Hotel

Washington, DC

<http://www.ausa.org>

October 21-24, 2002

4th Decontamination Commodity Area Conference (DECON 2002)

Marriott Hotel & Marina, San Diego, CA

POC: Booz-Allen & Hamilton

Phone: 410.612.8247 Fax: 410.612.8251

<http://eNSTG.com/Register/>

Decon Conference Code: 4TH42927

October 21-24, 2002

NDIA 7th Annual Expeditionary Warfare Conference "Expeditionary Warfare...The War on Terrorism"

Bay Point Resort Village Marriott

Panama City, FL

POC: NDIA

Phone: 703.247.2596 Fax: 703.522.1885

<http://www.ndia.org>

October 21-25, 2002

COURSE: Field Management of Chemical and Biological Casualties (FCBC)

Aberdeen Proving Ground, MD

POC: Chemical Casualty Care Division, USAMRICD

Phone: 410.436.2230/3393 DSN 584.2230/3393

Fax: 410.436.3086 DSN 584.3086

ccc@apg.amedd.army.mil

<http://ccc.apgea.army.mil/>

October 22-24, 2002

BioDefense Mobilization Conference & Exhibition

Loews Hotel

Philadelphia, PA

POC: BioDefense Mobilization Conferences

Phone: 206.334.7333

eric@bio-defense.org

<http://www.bio-defense.org>

October 29-31, 2002

NBC Defense Collective Protection Conference 2002

Rosen Centre Hotel, Orlando, FL

POC: Science and Technology Corporation

Phone: 757.766.5831 Fax: 757.865.1294

meetings@stcnet.com

<http://www.colpro2002.com>

October 31-November 1, 2002

The Second Global Conference on Nuclear, Bio/Chem Terrorism: Mitigation and Response

The Hilton Washington Hotel

Washington, D.C.

<http://www.bioterrorism-defense.com>

November 4-5, 2002

Jane's WMD 2002: Protecting the Community

Monarch Hotel

Washington, D.C.

POC: Jane's Events Department

conference@janes.co.uk

<http://www.janes.com/defence/conference/wmd/overview.shtml>

November 4-8, 2002

First Joint Conference on Battle Management for Nuclear, Chemical, Biological and Radiological Defense

The Williamsburg Hospitality House

Williamsburg, VA

POC: Science and Technology Corporation

Phone: 757.766.5831 Fax: 757.865.1294

meetings@stcnet.com

<http://www.1jcbm.com>

November 6-8, 2002

Vth International NBC Defence Symposium

Defence Academy

RMCS Shrivenham, UK

POC: Andrea Harrison

Phone: +44 1793 785648 • Fax: +44 1973 785325

andrea.harrison@rmcs.cranfield.ac.uk

<http://www.symposiaatshrivenham.com>

Calender of Events *cont.*

November 12, 2002

IAC Awareness Conference - DoD IACs: The Homeland Security Community's Information Edge

Cheyenne Mountain Resort, Colorado Springs, CO

POC: Tim Dixon

dixon@battelle.org

Phone: 410.569.0200 • Fax: 410.569.0588

http://www.cbiac.apgea.army.mil/awareness/IAC_2002.doc

November 12-15, 2002

International Conference on Disaster Management

Bally's, Las Vegas, NV

POC: Conference Coordinator

Phone: 850.906.9221 Fax: 850.906.9228

mail@DisasterMeeting.com

<http://www.disastermeeting.com>

November 16-22, 2002

COURSE: Medical Management of Chemical and Biological Casualties (MCBC)

#6H-F26 (Advance registration required)

USAMRICD, Aberdeen Proving Ground, Maryland and

USAMRIID, Fort Detrick, Maryland

POC: Chemical Casualty Care Division, USAMRICD

Phone: 410.436.2230/3393 DSN: 584.2230/3393

Fax: 410.436.3086 DSN: 584.3086

ccc@apg.amedd.army.mil

<http://ccc.apgea.army.mil>

November 18-21, 2002

Aircraft Survivability 2002

(#3940)

Naval Postgraduate School

Monterey, CA

POC: NDIA

Phone: 703.522.1820 Fax: 703.522.1885

<http://www.ndia.org>

November 18-21, 2002

BioSecurity 2002

MGM Grand Conference Center

Las Vegas, NV

POC: Key3Media

Phone: 323.954.6268

biosec@key3media.com

<http://www.biosecuritysummit.com>

November 19-21, 2002

2002 Joint Service Scientific Conference on Chemical & Biological Defense Research

Marriotts Hunt Valley Inn

Hunt Valley, MD

POC: Battelle Memorial Institute

Phone: 443.512.8172 Fax: 410.569.0588

technetregistration@jspargo.com

<http://www.technet2002.org>

IN THE NEWS

By Mary Frances Tracy

Edgewood CB Center Support U.S. Olympics and more CB Quarterly

March 2002

Issue 29

ECBC deployed personnel and equipment to support the FBI and emergency planners at this year's Winter Olympics Games. ECBC also custom designs prototype modular labs for a variety of customers based on their unique needs and requirements.

ECBC ... Celebrating 85 Years of CB Solutions and more CB Quarterly

June 2002

Issue 30

In April ECBC embarked on a year-long celebration that marks 85 years of providing CB defense solutions for the warfighter and our nation. The goal is to raise the level of awareness of ECBC as a national asset.

POC: Edgewood CB Center's Advanced Planning and Initiatives Directorate cet@sbccom.apgea.army.mil

EPA permit facilitates chemical weapons destruction

Army News Service

ArmyLINK News

June 10, 2002

ABERDEEN PROVING GROUND, Md. –" The Army announced June 10 that the Environmental Protection Agency has issued a national permit to address destruction of polychlorinated biphenyls, better known as PCBs, in chemical agent incineration facilities throughout the continental United States. Issued under the Toxic Substances Control Act, this allows the Army Program Manger for Chemical Demilitarization to have a single permit with facility-specific operating conditions as it treats PCBs contained in the fiberglass shipping and firing tubes of M55 rockets."

<http://www.dtic.mil/armylink/news/Jun2002/a20020610epaper-mit.html>

Army investigates chemical contamination in Uzbekistan

Jonathan Williamson

ArmyLINK News

June 11, 2002

"Chemical field tests at a U.S. base in Uzbekistan revealed traces of possible nerve and blister agents at three locations June 9. Neither American nor coalition personnel at Karshi Khanabad Air Base have been diagnosed with exposure to the chemicals."

<http://www.dtic.mil/armylink/news/Jun2002/a20020611uzchem.html>

Clemson Researchers Create Biosensors To Protect Nation's Food And Water Supplies

Clemson University

Science Daily

June 26, 2002

"...At Clemson University, researchers are developing a biosensor that will make contaminated food glow in the dark. A team

In the News *cont.*

of chemists, microbiologists and food scientists have devised a way to tether luminescent molecules to food pathogens, such as E.coli, and Salmonella. Using nanotechnology, the researchers are building a new screening method to protect our food supply..."

<http://www.sciencedaily.com/releases/2002/06/020625062836.htm>

United States and United Kingdom Scientists to Collaborate on Ways to Detect Chemical and Biological Weapons

National Nuclear Security Administration,
U.S. Department of Energy

NNSA News July 3, 2002

"Scientists from the Department of Energy's National Nuclear Security Administration (NNSA) and the United Kingdom Ministry of Defence will soon be collaborating on ways to detect and address the threat of biological and chemical weapons of mass destruction as a result of an agreement signed between the United States and the United Kingdom today."

http://www.nnsa.doe.gov/docs/2002-07-03-US-UK_CBW_agreement.pdf

Pentagon bio-protection system gets award

Jonathan Williamson
Army News Service,

ArmyLINK News July 3, 2002

WASHINGTON – "A new system that has been monitoring the Pentagon's air to make sure it's free of chemical and biological agents recently received recognition.

The Joint Biological Point Detection System received the David Packard Excellence in Acquisition Award at the Pentagon June 18. The annual award recognizes Department of Defense organizations, groups, or teams that have made significant contributions demonstrating innovation and the best acquisition practices, ..."

<http://www.dtic.mil/armylink/news/Jul2002/a20020703jbpds.html>

JULIE L. GERBERDING, M.D., M.P.H., NAMED CDC DIRECTOR AND ATSDR ADMINISTRATOR

U.S. Department of Health and Human Services Press Release

HHS News July 3, 2002

"HHS Secretary Tommy G. Thompson today named Julie L. Gerberding, M.D., M.P.H., to be director of the Centers for Disease Control and Prevention (CDC) and administrator for the Agency for Toxic Substances and Disease Registry (ATSDR). Dr. Gerberding is an infectious disease expert and has been leading CDC's efforts to prepare for and counter terrorism."

<http://www.hhs.gov/news/press/2002pres/20020703a.html>

DOD EXPANDS SHAD INVESTIGATION

News Release No. 355-02

United States Department of Defense July 9, 2002

"The Department of Defense announced today an expansion of the Shipboard Hazard and Defense investigation. A team of investigators will travel to Dugway Proving Ground in mid-August to review Deseret Test Center records."

http://www.defenselink.mil/news/Jul2002/b07092002_bt355-02.html

http://deploymentlink.osd.mil/current_issues/shad/shad_intro.shtml

Leonard Wood, UMR test chemical marker prototypes

Staff Sgt. Guadalupe Stratman

July 11, 2002

Fort Leonard Wood Guidon

"Fort Leonard Wood is poised to take a leap into the future with new nuclear, biological and chemical markers for the Chemical Corps. Teams from the post and the University of Missouri-Rolla recently tested three prototypes of NBC warning devices called "smart markers."

http://tradoc.monroe.army.mil/pao/11July_FLW_chemmarkers.htm

Swiss Pharmaceutical Firms Address Bioterrorism Threat

Michel Walter

July 14, 2002

Swiss Info.org

"Switzerland's pharmaceutical industry has drawn up guidelines to stop dangerous chemicals falling into the hands of terrorists."

<http://www2.swissinfo.org/sen/Swissinfo.html?siteSect=161&sid=1225921>

Virginia Tech lab gets grant to study Gulf War Syndrome

Kevin Miller July 15, 2002

The Roanoke Times

"Virginia Tech researchers are once again delving into the mystery of Gulf War Syndrome, this time evaluating whether the uranium used in some high-tech ammunition, when combined with battlefield stress, could cause nerve damage."

<http://www.roanoke.com/roaimes/news/story133512.html>

U.S., Canada Set Up New Joint Border Security Units

Eric Green, International Information Programs

Washington File, U.S. Department of State July 23, 2002

Washington-"The United States and Canada have announced that they will set up five new joint border policing units in Ontario and Quebec to improve security in response to the September 11 terrorist attacks against New York and Washington.

The joint units, known as Integrated Border Enforcement Teams (IBETs), are composed of police, immigration and customs officials from the two countries."

<http://usinfo.state.gov>

http://208.37.97.178/scripts/cqcg.exe/@pdqtest1.env?CQ_SESSION_KEY=YNODLPDNGAD&CQ_QUERY_HANDLE=124199&CQ_CUR_DOCUMENT=6&CQ_PDQ_DOCUMENT_VI EW=1&CQSUBMIT=View&CQRETURN=&CQPAGE=1

NEW CBIAC PRODUCTS

Tools to Minimize the Threat of Intentional Food/Water Contamination

Distribution Limitation: U.S. Federal Government Agencies and their contractors and State and Local Government Agencies; Unclassified

CBIAC Product Number: SOAR-02-05

Price: \$75.00

Publication Date: January 2002

Availability: CBIAC

CB Number/AD Number: CB-160826

Product Category: State-of-the-Art Report **Media:** Paperback

Description: This report provides a catalog of security technologies and analytical methods to minimize the threat posed by intentional food and/or water contamination. Specific pathogens and other agents (bacteria, protozoan parasites, viruses, toxins, chemicals) are addressed. Several cases of intentional food contamination are summarized. Defensive strategies against food and water terrorism should also consider treatment measures, which are not discussed in this catalog.

Medical Risk Assessment of the Biological Threat

Distribution Limitation: U.S. Federal Government Agencies and Their Contractors Only; Unclassified

CBIAC Product Number: SOAR-02-06

Price: \$45.00

Publication Date: June 2002

Availability: CBIAC

CB Number/AD Number: CB-160829

Product Category: State-of-the-Art Report **Media:** Paperback

Description: Panels of medical specialists developed weighted criteria to score potential biological agents based on pathophysiology and operational impacts of agent-induced disease. These criteria were used to produce a medical biological agent risk management matrix prototype.

Chemical Agent Simulants and Associated Technologies

Distribution Limitation: U.S. Federal Government Agencies Only; Unclassified

CBIAC Product Number: CR-02-05

Price: \$25.00

Publication Date: April 2002

Availability: CBIAC

CB Number/AD Number: CB-160826

Product Category: Critical Review **Media:** Paperback

Description: The purpose of this review is threefold: (1) To provide the reader with a basic understanding of the principles underlying the selection and use of chemical agent simulants; (2) To provide an overview of chemical agent simulant programs as they have evolved among nations world-wide with emphasis on the U.S. program and; (3) to provide an extensive list of information resources for readers who wish to pursue this topic further.

Chemical Sources Database: Toxicological Values for Catastrophic Release of Toxic Industrial Chemicals

Distribution Limitation: U.S. DoD Agencies Only; Unclassified

CBIAC Product Number: DB-02-01

Price: \$75.00

Publication Date: July 2002

Availability: CBIAC

CB Number/AD Number: CB-188631

Product Category: Database

Media: CD-ROM

Description: This database provides toxicological information on over 3200 chemicals (Tier I data) and over 400 chemicals (Tier II data) that may be of interest in a deployment situation. The database supports searching by chemical name and CAS number and provides toxicological reports on the chemicals covered. This CD-ROM contains an Access MDB file and a readme file. This DB is a companion to DBK-02-01 and contains the information in an electronic format.

Chemical Sources Database: Toxicological Values for Catastrophic Release of Toxic Industrial Chemicals

Distribution Limitation: U.S. DoD Agencies Only; Unclassified

CBIAC Product Number: DBK-02-01

Price: \$75.00

Publication Date: July 2002

Availability: CBIAC

CB Number/AD Number: CB-188632

Product Category: Databook

Media: Paperback

Description: This databook provides toxicological information on over 3200 chemicals (Tier I data) and over 400 chemicals (Tier II data) that may be of interest in a deployment situation. The databook, an 11" by 17" paperback, contains an Introduction, sections on Tier I – Chemicals Sorted by CAS Number, Tier I – Chemicals Sorted by Tox Score, Tier II Chemical Data, and References. This DBK is a companion to DB-02-01 and contains the information in a hard copy format.

Set of both database and databook: Chemical Sources Database: Toxicological Values for Catastrophic Release of Toxic Industrial Chemicals

Distribution Limitation: U.S. DoD Agencies Only; Unclassified

CBIAC Product Number: DBS-02-01

Price: \$125.00

Publication Date: July 2002

Availability: CBIAC

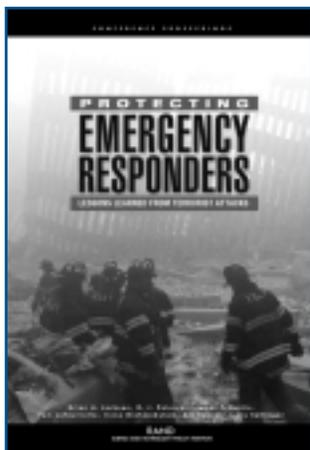
CB Number/AD Number: CB-1188633

Product Category: Database/Databook

Media: CD-ROM/Paperback

New Info. Resources *cont.*

the RAND Science and Technology Policy Institute to organize a conference of individuals with firsthand knowledge of emergency response to terrorist attacks. The purpose of the conference was to review the adequacy of personal protective equipment (PPE) and practices, such as training, and to make recommendations on how the equipment and practices worked and how they might be improved." (*Executive Summary*)



CB-188074

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<http://www.rand.org/scitech/stpi/>

National Institute of Allergy and Infectious Diseases. **The Counter-Bioterrorism Research Agenda of the National Institute of Allergy and Infectious Diseases (NIAID) for CDC Category A Agents.** Bethesda, MD: NIAID, 2002
<http://www.niaid.nih.gov/dmid/pdf/biotresearchagenda.pdf>

"This Counter-bioterrorism Research Agenda supplements the strategic plan and articulates the goals for research on anthrax, smallpox, plague, botulism, tularemia, and viral hemorrhagic fevers. The research agenda focuses on the need for basic research on the biology of the microbe, the host response, and basic and applied research aimed at the development of diagnostics, therapeutics, and vaccines against these agents. In addition, the agenda addresses the research resources, facilities, and scientific manpower needed to conduct both basic and applied research on these agents." (*Introduction*)



CB-188075

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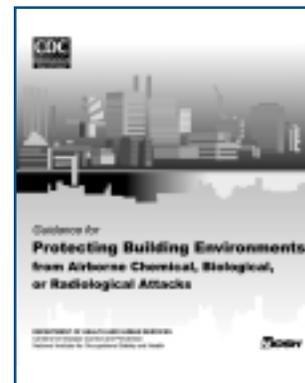
ARL(SLAD) Develops NBCCS On-line Web Site.

<https://www-slad.arl.army.mil/Internal/NBCCS/home.html>

CDC, DHHS and NIOSH. **Guidance for Protecting Building Environments from Airborne Chemical, Biological, or Radiological Attacks.** Washington, D.C.: CDC, DHHS & NIOSH, 2002.

<http://www.cdc.gov/niosh/bldvent/pdfs/2002-139.pdf>

"With U.S. workers facing potential hazards associated with chemical, biological, or radiological terrorism, the missions of the OHS (Office of Homeland Security) and NIOSH overlap. As with most hazards, there are preventive steps that can reduce the likelihood and mitigate the impact of terrorist threats. Tried and proven principles in the control of airborne contaminants can be joined with similarly focused safety and security principles to provide guidance on how we design and operate our building environments. This document is the result of recent building vulnerability assessments conducted by NIOSH, as well as significant content and review recommendations provided by Workgroup (the Interagency Workgroup on Building Air Protection) members." (*Forward*)



CB-160679

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Pangi, Robyn. **Consequence Management in the 1995 Sarin Attacks on the Japanese Subway System.** Belfer Center for Science and International Affairs Discussion Paper 2002-4. John F. Kennedy School of Government, Harvard University, February 2002.

<http://ksgnotes1.harvard.edu/bcsia/library/nsf/publications/>

(*Select the year "2002." The publications are listed alphabetically by the lead author.*)

"Recent events in the United States including the dispersal of anthrax spores through the mail and scores of hoaxes alleging the use of anthrax have brought the issue of terrorism using weapons of mass destruction (WMD) closer to home. The handling of the Aum Shinrikyo attacks offers the opportunity for policymakers, emergency response personnel, and other relevant professionals to learn about WMD consequence management." (*Introductory remarks*)

CB-010345

Belfer Center for Science and International Affairs

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Harvard University

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<http://www.ksg.harvard.edu/bcsia>

“ Mobile Laboratories” cont.

the mobile laboratories that monitored for hazardous materials at the Olympic venues in 1994 and 2001.

The Development Process

The process we used to build the FBI mobile laboratory is the process we now use (with some refinements) to build all of our mobile platforms. The process begins by developing a close relationship with the client to define their requirements. We must determine specifically what they need and what they want to do. Credibility – quality control – is paramount to us. We recognize that whatever they need to do, they have to be able to do it as well in the field as they do in the laboratory.

From the Requirements Definition, we move on to a Best Technical Approach stage where we select platforms, instruments, and integrators. Do they want a 53' Featherlite truck, do they want three 20' vans, or do they want a laboratory in a box that fits all the union requirements to make it air transportable on regular cargo? There are trade-offs to be considered and decisions to be made. A 53' Featherlite will cost \$250K and that's going to buy a lot of capability; but it requires someone with a commercial drivers license to drive it, and there's a huge logistical chain associated with moving it. If it's a double-wide, it will require a placard vehicle driving behind. These are the considerations our team must constantly address to figure out the best approach for potential clients. Many of the decisions are based on our previous experience.

At the build stage, the first thing we do is a round-table where we decide what the product will be and to what standard it will be designed. This is done particularly if there are any safety concerns. In the case where there are chemical or biological warfare materials or toxic industrial compounds present – materials that can harm the operator or the environment – we will bring together a group of experts, consisting of the lead engineer, the program manager, the biologist or the chemist, the vendors that we may be working with and most importantly an expert in risk management.

In the Army, Risk Management incorporates a program called Surety, which includes safety and security. When our customer will be working with risky materials, we have safety concerns and security concerns. For example, chemical warfare materials which are used in programs allowed under the Chemical Weapons Convention must be tightly stored under lock and key. Only very small quantities are released for analysis purposes. So if we're going to design a glove box self-contained laboratory

system, fume hood, or some other component, we gather a group of six to ten experts around a whiteboard. We ask each expert what is important to him or her. Risk might say, "I need an average air flow of 110 linear feet per minute at the sash of your hood." And the engineer will say, "I need it to fit in this space and have this kind of motor." And the vendor will say, "My instrument gives off hazardous vapor, so it needs to vent directly into this fume hood." And then we'll announce, "Well, it can only cost this amount of money."

We pull in the very best experts in the field to make sure that when the time comes for final assembly approval, no one will suddenly reveal that we haven't met the standards. Instead, we let the experts tell us in advance what design criteria we're going to have to meet so that when our product is ready for delivery, it incorporates all of the experts' expectations. This was the approach we used to develop both the patented Super Toxic Analytical Glovebox System (STAGS) and the patented Portable Glovebox and Filtration System, which is now licensed by the Army to Purified Micro Environments.

We are very fortunate to be working with knowledgeable experts who are pro-active. Risk Management people are the safety, health, and security technical experts who work closely with us to produce a system that meets the needs of the user as well as affords them the protection needed from the toxic materials being worked with.

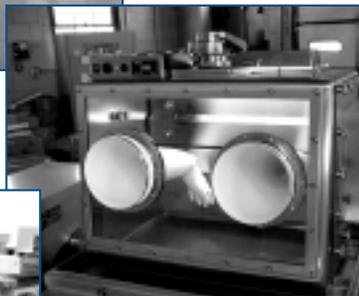
Finally and paradoxically, the mobile laboratory must be supported by a fixed-site laboratory. We never recommend taking a mobile laboratory into the field and attempting to be autonomous. While the whole idea of a mobile laboratory is to be autonomous in the field, you need a "mother ship" somewhere that you can phone for supplies, for support, and for technical assistance. The fixed-site laboratory may be far away, but it must be available to ensure success in the field.

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There are several ways that organizations can partner with us; these include:

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- Cooperative Research and Development Agreements (CRADA)*
- Test Services Agreements (TSA)*
- Memorandums of Agreement (MOA)*
- Memorandums of Understanding (MOU)*
- Support Agreements (Interagency Agreements)*

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